Practice worksheet | Networks, scheduling and assignment

Minimum completion time

Name: _____ Date: _____

6 questions | 16 marks

1. Find the display project's total activity duration and its earliest elapsed completion.
[3 marks]

A school display project. Times are in days.

Activity	Duration	Immediate predecessors
A	4	None
B	3	None
C	5	A
D	4	A
E	2	B and D
F	3	C and E

2. Reduce D in the display project from 4 to 3 days. Find the new completion and all critical real-activity paths. [3 marks]

A school display project. Times are in days.

Activity	Duration	Immediate predecessors
A	4	None
B	3	None
C	5	A
D	4	A
E	2	B and D
F	3	C and E

3. Instead reduce D from 4 to 1 day. Find the new project completion. [3 marks]

A school display project. Times are in days.

Activity	Duration	Immediate predecessors
A	4	None
B	3	None
C	5	A
D	4	A
E	2	B and D
F	3	C and E

4. Two independent tasks each last 6 hours but need the same one available operator. A final 1-hour task follows both. Compare the dependency-only minimum with a schedule respecting the operator limit. [3 marks]

5. A project has a 22-day critical path and a 21-day alternative. A one-day reduction is available on a task shared by both routes. What revised completion results? [2 marks]

6. A contractor promises the exact network minimum with no allowance for uncertainty. Give two assumptions that should be checked. [2 marks]